

Supporting Information

Aburto-Oropeza et al. 10.1073/pnas.0804601105

Table S1. Data on mangrove coverage, estuarine systems, and aquatic vegetation from an extensive inventory of wetlands in Northern Mexico (1, 2)

State	Regions	DUMAC areas included	Fisheries offices included	Area, ha				Rainfall, mm*	Latitude	Fishing boats [†]	Landing (ton)
				Mangrove	Estuarine systems	Seagrass					
Baja California Sur	Magdalena	Bahía Magdalena	Adolfo López Mateos San Carlos Puerto Cortés	21,848	95,886	14,572	100	24.83	639	2,508	
		La Paz [‡]	—	578	—	—	300	24.13	1,401	709	
		Loreto [‡]	—	80	—	—	250	25.99	349	229	
		Santa Rosalía [‡]	—	719	—	—	200	27.31	507	1,301	
	Kino-Tastiota	Estero Sargentó	Puerto Libertad	920	0	592	100	29.30	1,137	3,683	
		Bahía Kino	Bahía Kino								
		Estero Cardonal									
		Estero Tastiota									
		Guásimas-Yavaros	Bahía Guásimas-Esteros Luna	Guaymas	10,344	18,045	11,277	150	27.50	7,212	7,470
		Bahía Lobos	Ciudad Obregón								
Sonora	Guásimas-Yavaros	Estero los Mélagos	Huatabampo								
		Esteros Santo Domingo, Techoa y Atanasia									
		Laguna Atanasia									
		Estero Tóbari									
		Estero Aquiropo									
		Boca del Río									
		Mayo-El Elote									
		Laguna Etchoropo									
		Estero Huatabampito									
		Laguna Tecucuri									
		Estero Santa Bárbara									
		Estero Moroncarit									
Sinaloa	Agiabampo-Topolobampo	Bahía Yavaros									
		Bahía Agiabampo	Los Mochis	24,554	71,298	3,716	250	25.65	2,325	8,055	
	Santa María	Bahía Lechuguilla	Topolobampo								
		Topolobampo									
		Guasave	Guasave	39,699	48,946	7,351	350	25.30	2,325	12,666	
	Pabellones	Bahía Santa María	La Reforma								
		Ensenada Pabellones	Navolato	18,206	41,081	1,977	400	24.78	3,870	3,309	

Table S1. Continued.

State	Regions	DUMAC areas included	Fisheries offices included	Area, ha					Latitude	Fishing boats [†]	Landing (ton)
				Mangrove	Estuarine systems	Seagrass	Rainfall, mm*				
Nayarit	Marismas Nacionales	Bahía La Guadalupana	Culiacan								
		Elota									
		Complejo Huizache-Caimanero									
		Baluarte a Teacapán	El Rosario	Escuinapa	19,135	4,367	125	600	22.84	713	4,646
		Río Baluarte-Teacapan		El Rosario							
		Marismas Nacionales	Tecuala		69,969	34,220	47	1000	21.94	3,540	11,625
	Peñita de Jaltembla [‡]	Tuxpan									
		Santiago									
		Ixquintla									
		San Blas									
		Peñita de Jaltembla	—	Peñita de Jaltembla	162	—	—	1100	21.05	814	428

*Comisión Nacional del Agua (CNA) (2005) Estadísticas del agua en México (Comisión Nacional del Agua, SEMARNAT, México, D.F.).

[†]Secretaría de Comunicaciones y Transporte (SCT) (2005) Reporte Anual. Diciembre 2005 (Secretaría de Comunicaciones y Transportes, Mexico, D.F.)

[‡]Google Earth software and GE Path software (freeware; www.sgrillo.net) were used to estimate mangrove coverage in four local CONAPESCA offices (La Paz, Loreto, Santa Rosalía, and Peñita de Jaltemba) that were missing in the inventory. The number of fishing boats and the rainfall values for each region were obtained from the literature (3, 4). Estimation of mangrove area was done using field trips, Google Earth software, and GE Path software (www.sgrillo.net).

1. Carrera E, de la Fuente G (2003) *Inventario y clasificación de humedales en México. Parte I* (Ducks Unlimited de México, A.C., México).

2. De la Fuente, G, Carrera, E (2005) *Cambio de uso del suelo en la zona costera del Estado de Sinaloa*. (Grant 03-DG-11132762-157, Ducks Unlimited de México, A.C., México).

3. SCT (2005) *Reporte Anual. Diciembre 2005* (Secretaría de Comunicaciones y Transportes, Mexico, D.F.)

4. CNA (2005) *Estadísticas del agua en México* (Comisión Nacional del Agua, SEMARNAT, México, D.F.).

Table S2. Fish and invertebrates that use mangroves as habitat can be classified into permanent residents (they spend their entire life cycle in mangrove systems), and temporary residents (associated with mangroves at least during one stage of their life cycle) (1)

Group	Taxa	Common name		ID code*	US\$·kg ⁻¹ †
		English	Spanish (2)		
Crustaceans	Portunidae	Blue crab	jaiba	3371	1.8
Fish	Ariidae	Sea catfish	bagre	0721	0.9
			chihuil	0971	0.9
	Haemulidae	Grunts	roncacho	7641	2.0
			burro	1221	1.2
			bacoco	1251	1.2
			burrito	1271	1.2
			rayadillo	1331	0.9
	Mugilidae	Mullets	lisa	4101	1.1
			lebrancha	4141	1.1
			lisa macho	4161	1.1
	Gerreidae	Mojarra	bandera	0921	0.9
			mojarra	5141	0.9
			mojarra blanca	5171	0.9
			mojarra china	5211	0.9
			mojarra aleta amarilla	5221	0.9
			mojarra plateada	5291	0.9
	Lutjanidae	Snappers	pargo	5781	3.6
			coconaco	5851	3.0
			flamenco	5911	3.0
			pargo lunarejo	5941	3.5
			pargo mulato	5951	2.2
	Centropomidae	Snooks	robalo	7381	5.0
			constantino	7401	5.0
	Chanidae	Milkfish	sabalo	7771	1.2
			chano	9061	1.2

The majority of fish use mangroves only as nursery grounds, whereas crustaceans may be permanent or temporary residents. The landings from the mangrove-related species listed in this table were considered in the present study.

*CONAPESCA system classification; the ID code distinguishes a species or a group of conspecifics.

†Price paid for fishermen by fishing cooperatives.

1. Rönnbäck, P (1999) The ecological basis for economic value of seafood production supported by mangrove ecosystems. *Ecological Economics* 29, 235–252.

2. Diario Oficial de la Federación (DOF) (2004) Acuerdo mediante el cual se aprueba la actualización de la Carta Nacional Pesquera y su anexo. *Diario Oficial de la Federación* (March 15, 2004):76–362 (second section), 2–180 (first section).